

I claim:

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1. A rejuvenating ^{or} ~~and/or~~ cleaning composition for a catalyst of a vehicle catalytic converter, comprising at least one hydrocarbon source and at least one oxygen donor.
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2. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 1 wherein said composition generates an organic acid vapour on combustion.
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3. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 2, wherein the organic acid vapour includes a carboxylic acid vapour.
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4. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 1, wherein the oxygen donor or one of the oxygen donors and the hydrocarbon source or one of the hydrocarbon sources are one and the same compound.
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5. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 1, including one or more organic solvents as hydrocarbon source ^{or} ~~and/or~~ oxygen donor.
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6. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents ^{comprise} ~~include~~ aliphatic alcohols, ketones, aromatic hydrocarbons ^{or} ~~and/or~~ aliphatic hydrocarbons.
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7. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents ^{comprise} ~~include~~ isopropyl alcohol.
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8. ^{The rejuvenating} ~~A rejuvenating~~ ^{or} ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents

[include acetone.

9. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents ^{comprise} include xylene.

10. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents ^{comprise} include isopropyl alcohol, acetone ^{or} and xylene.

11. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents ^{comprise} include alkanes, paraffin ^{kerosene, or} (kerosene) ~~and/or~~ lamp oil.

12. A rejuvenating and/or cleaning composition as claimed in claim 5, wherein the one or more organic solvents are selected from isopropyl alcohol, acetone, xylene and paraffin.

13. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in any one of the preceding claims comprising isopropyl alcohol, acetone, xylene and paraffin.

14. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in claim 13, comprising 10-40 wt% isopropyl alcohol, 10-40 wt% acetone, 35-65 wt% xylene and 5-15 wt% paraffin.

15. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in claim 13, comprising 15-25 wt% isopropyl alcohol, 15-25 wt% acetone, 45-55 wt% xylene and 7-12 wt% paraffin.

16. ^{The rejuvenating} ~~A rejuvenating and/or~~ cleaning composition as claimed in any one of the preceding claims, comprising one or more trace elements selected from Sr, Bi, Cd, Ba, Ni, Mn, Fe, Na, Zn, Al, Ca, Cu, Pb, Co, K, Cr, Mg, As, Sn, Sb, V, Ti,

{ Be, Si, P, W, and Mo.

4 17. ^{The rejuvenating or} ~~A rejuvenating and/or~~ cleaning composition as claimed
in claim 16, wherein those trace elements which are
5 present are each present in an amount of $\pm 30\%$ of the
figures shown for the respective element: Sr (0.01ppm), Bi
SUB B1 (0.05ppm), Cd (0.01ppm), Ba (0.01ppm), Ni (0.07ppm), Mn
(0.05ppm), Fe (0.16ppm), Na (4.03ppm), Zn (0.05ppm), Al
(0.19ppm), Ca (0.14ppm), Cu (0.02ppm), Pb (0.06ppm), Co
10 (0.01ppm), K (15.59ppm) Cr (0.01ppm), Mg (0.05ppm), As
(0.05ppm), Sn (0.34ppm), Sb (0.10ppm), V (0.07ppm), Ti
(0.01ppm), Be (0.01ppm), Si (0.39ppm), P (0.17ppm), W
(0.14ppm), and Mo (0.01ppm).

A 15 18. The use of a rejuvenating ^{or} ~~and/or~~ cleaning composition
as defined in claim 1 to rejuvenate and/or clean a
catalyst in a vehicle catalytic converter, in situ, in a
vehicle i.e. without removal of the catalyst from the
vehicle.

20 19. A method of rejuvenating ^{or} ~~and/or~~ cleaning a catalyst
in a vehicle catalytic converter, in situ, in a vehicle
i.e. without removal of the catalyst from the vehicle,
said method comprising:

25 (i) bringing the catalytic converter up to working
temperature; and then

(ii) passing a rejuvenating and/or cleaning
composition as defined in claim 1 into an engine of the
vehicle whilst running the engine at idle.

30 20. A method as claimed in claim 19, wherein the
~~rejuvenating and/or cleaning~~ composition is passed into
the vehicle engine under pressure.

A 35 21. A method as claimed in claim 19, the method further

comprising:

(i) bringing an engine of the vehicle to working temperature;

5 (ii) disconnecting the vehicle's fuel line from the engine;

(iii) connecting the engine to a means for feeding ^{the} ~~rejuvenating and/or cleaning~~ composition thereto; and

10 (iv) feeding the ~~cleaning~~ composition into the engine whilst the engine is running at a temperature high enough to effect cleaning of the catalyst.

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22. A method of rejuvenating ~~and/or~~ cleaning a catalyst of a vehicle catalytic converter without removal of the catalyst from the vehicle, the vehicle having an engine and a fuel tank, said method comprising the steps of:

15 (i) introducing an amount of rejuvenating ~~and/or~~ cleaning composition into the fuel tank, said tank already containing a quantity of fuel; and then

20 (ii) running the engine of the vehicle to effect cleaning of the catalyst.

23. A method as claimed in claim 21, wherein the amount of composition added is predetermined by the quantity of fuel contained ^B in the tank, and wherein the amount of composition added is in the range of 0.5 to 0.75 litres per 30 litres of fuel.

24. A method as claimed in claim 21, wherein the vehicle is run at a temperature of between 60 and 90°C.

25. A method as claimed in claim 21, wherein the rejuvenating and/or cleaning composition is as defined in claim 1.

26. A method as claimed in claim 25, wherein the

[rejuvenating and/or cleaning composition is combustible.

27. A method as claimed in claim 25, wherein the
rejuvenating and/or cleaning composition is as defined in
5 claims 1.

28. A method as claimed in claim 25, wherein the vehicle
is run at a temperature of between 60 and 90°C.

10 29. A method as claimed in claim 25, wherein the
rejuvenating and/or cleaning composition is fed into the
injection system, through the engine, through the
catalytic converter and out through the exhaust system
into the atmosphere.

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